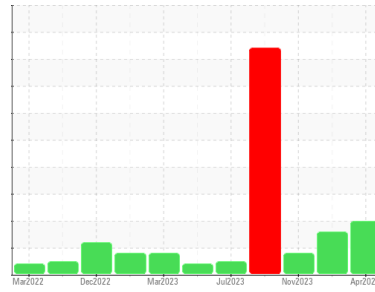




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
QUINCY VRU SMALL (S/N 157822)
 Component
Compressor
 Fluid
SHELL MORLINA S4 B 68 (--- QTS)

DIAGNOSIS

● Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a light concentration of water present in the oil. The amount and size of particulates present in the system are acceptable.

● Fluid Condition

The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0837916	WC0837887	WC0837894
Sample Date	Client Info		25 Apr 2024	01 Jan 2024	17 Nov 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ATTENTION	ABNORMAL	ATTENTION

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	20	15	36
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m	0	0	<1
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	0	0
Lead	ppm	ASTM D5185m >25	0	0	0
Copper	ppm	ASTM D5185m >50	0	0	0
Tin	ppm	ASTM D5185m >15	0	0	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m	0	0	<1
Calcium	ppm	ASTM D5185m	0	0	2
Phosphorus	ppm	ASTM D5185m	211	179	263
Zinc	ppm	ASTM D5185m	0	0	0
Sulfur	ppm	ASTM D5185m	803	1094	602

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	0	<1	<1
Sodium	ppm	ASTM D5185m	<1	<1	<1
Potassium	ppm	ASTM D5185m >20	0	0	1
Water	%	ASTM D6304 >0.1	▲ 0.112	---	---
ppm Water	ppm	ASTM D6304 >1000	▲ 1120	---	---

FLUID CLEANLINESS

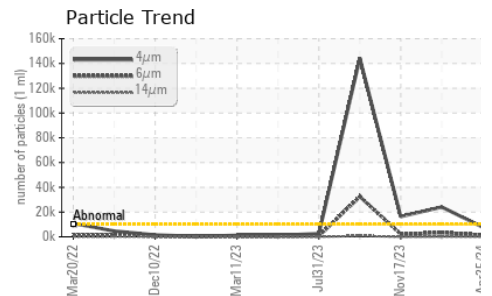
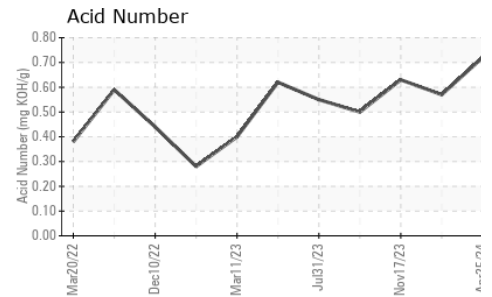
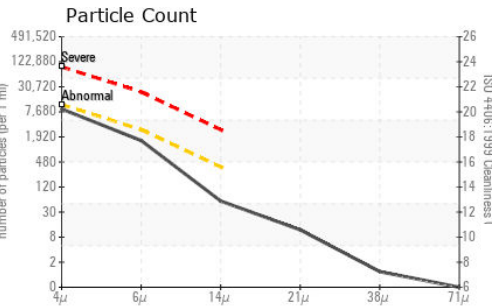
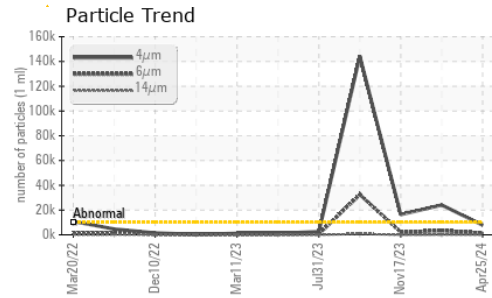
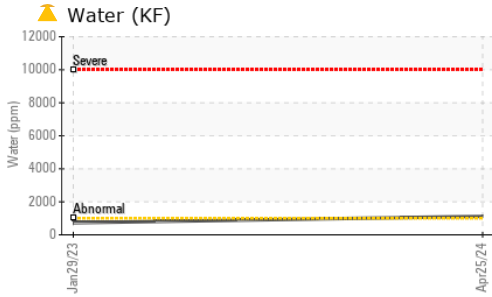
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	7832	▲ 24090	● 16331
Particles >6µm	ASTM D7647	>2500	1376	● 3420	2168
Particles >14µm	ASTM D7647	>320	49	184	36
Particles >21µm	ASTM D7647	>80	10	38	10
Particles >38µm	ASTM D7647	>20	1	1	2
Particles >71µm	ASTM D7647	>4	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	20/18/13	▲ 22/19/15	● 21/18/12

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.72	0.57	0.63



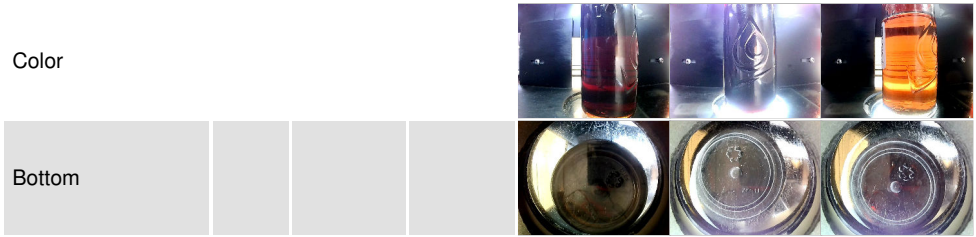
OIL ANALYSIS REPORT



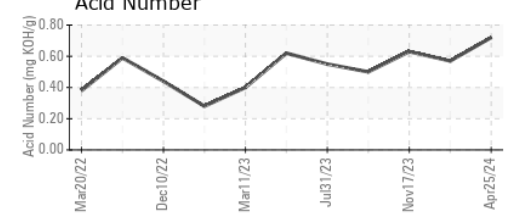
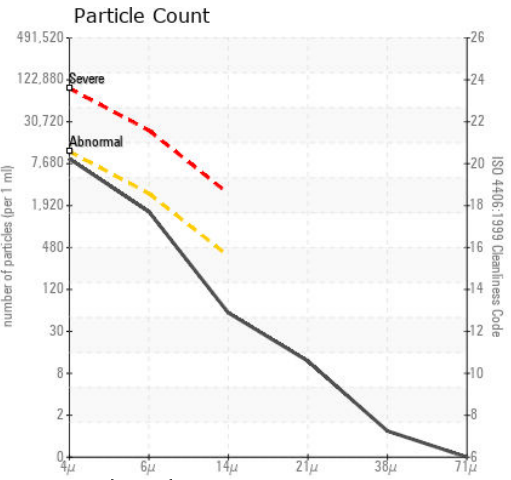
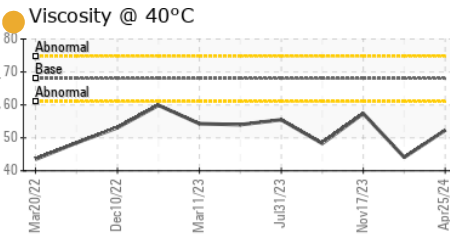
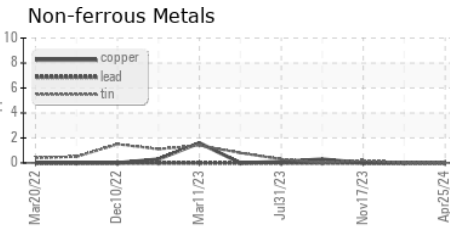
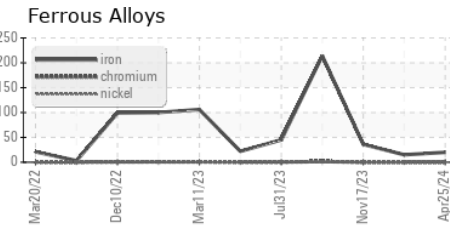
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual	0.2%	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D445	68	52.3	44.1	57.38

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0837916 **Received** : 26 Apr 2024
Lab Number : 06161423 **Tested** : 30 Apr 2024
Unique Number : 10996846 **Diagnosed** : 30 Apr 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PrtCount)

HILCORP ENERGY - VANDERBILT
 1421 MOBIL OIL ROAD
 VANDERBILT, TX
 US 77991
 Contact: DEREK HARGRAVE
 dhargrave@hilcorp.com
 T: (361)284-7406
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)